

CHAPTER 8

Assessment of Impacts

Organization of this Chapter

This chapter *assesses* the impacts of the alternatives, as described in Chapter 6, on the affected environment, which is described in Chapter 7, the Affected Environment. The impact topics appear in the order in which they were considered in Chapter 7.

Summaries of Alternatives

- **Alternative 1: Continued Support to Rivers of Steel National Heritage Area** – The Rivers of Steel NHA management entity, the Steel Industry Heritage Corporation (SIHC), would continue to be the primary entity responsible for preservation and interpretation of the resources in the Homestead vicinity, as part of its general mission to conserve, promote and manage the historic, cultural, natural and recreational resources of steel and related industries in southwestern Pennsylvania and to develop uses for these resources so they may contribute to economic revitalization of the region. NPS would continue its current support to the SIHC, who would continue its endeavors to implement the Management Action Plan for the NHA. No additional federal action would be proposed.
- **Alternative 2: The Homestead Steel Workers National Historic Site** – The focus of Alternative 2 would be the stories of steel workers, their communities and their dramatic struggle with powerful steel companies to secure decent working conditions and fair wages, including a nearly 50-year struggle to rebuild a union after it was broken by the Battle of Homestead. Congress would designate a National Historic Site as an affiliated area of the National Park System to authorize the NPS to provide financial, interpretation and preservation assistance to local public and private entities beyond that provided by existing authorities. NPS assistance would be directed toward key resources in the vicinity of the former Homestead Works and its community that illustrates these themes. The boundary of the NHS would include certain noncontiguous historic sites in Homestead, West Homestead, Munhall, Swissvale and Rankin, Pennsylvania.

- **Alternative 3: Lower Mon Valley Steel National Historic Site** – Alternative 3 would focus on the stories of steel workers, their communities and their dramatic labor struggles – told in the Homestead vicinity. It would place the unique labor story of Homestead in a larger context by expanding interpretation to encompass the historic industrial sites and related resources that line the Lower Mon Valley to convey the massive scale of the “Big Steel” industry that employed hundreds of thousands of workers, built mammoth plants that indelibly imprinted the form and culture of its river landscape and produced basic materials that changed the lifestyles of a nation. Congress would designate a National Historic Site as an affiliated area of the National Park System to authorize the NPS to provide technical and financial assistance to local public and private entities for interpretation and preservation of resources beyond that provided by existing authorities. The boundary of the NHS would include the same sites as Alternative 2, which would be eligible for interpretation and preservation assistance, supplemented by a corridor of varying width on both sides of the Lower Monongahela River between the Youghiogheny River and the confluence of the Monongahela with the Allegheny River. Along this river corridor, where limited NPS interpretive assistance would be available to link resources in the Homestead vicinity to other steel industry related resources, the scope and power of the “Big Steel” story can be appreciated by the public.

Methodology

General Approach

This Environmental Assessment (EA) describes the potential environmental consequences of each alternative presented in Chapter 6 of this document. While these alternatives offer various strategies for the preservation, interpretation and management of historic resources, the desired physical outcome of each alternative is likely to be similar, with the main difference being the level of involvement of NPS, which may affect the eventual outcome. There would be no direct NPS management or ownership of the resources under any alternative, and NPS would not have direct control over

future actions or programmatic outcomes. Because of these inherent uncertainties, it is not possible to be precise and exhaustive about impacts at this time. Instead, this EA identifies likely types of environmental consequences and describes them in qualitative terms and orders of magnitude. This EA serves to clarify which alternative will have the most beneficial or least detrimental environmental consequences.

Both action alternatives propose that a general management plan (GMP) be developed pursuant to a National Historic Site designation at Homestead. The GMP would define more specific actions to be taken, as well as management commitments of local entities and would be accompanied by an EIS. As warranted, the GMP/EIS would provide a more detailed analysis of anticipated impacts. In addition, any actions funded by federal funds would require NEPA and Section 106 compliance, which would examine impacts in detail.

The following terms are used in this document when comparing environmental impacts among alternatives:

Magnitude of Impact

Negligible – The impact is barely perceptible or not measurable.

Minor – The impact is slightly detectable and measurable but is either localized or would not adversely affect resources.

Moderate – The impact is clearly detectable and could have appreciable effect on resources.

Major – The impact is substantial and highly noticeable or measurable.

Duration of Impact

Short-term – The impact is typically less than one year. Short-term impacts are often associated with construction of specific facilities that temporarily change environmental conditions. Because this SRS does not recommend such actions, there will be no discussion of short-term impacts in this chapter.

Long-term – The impact lasts one year or longer.

Quality of Impact

Beneficial – The impact is generally positive on the resources being considered.

Adverse – The impact is generally negative on the resources being considered.

Qualitative Impact Timing Considerations

Under Alternative 1, where no further federal action is proposed, it is likely that SIHC would require an extended period of time to attract the large investment that is required to implement the NHA Management Action Plan. Further, the plan's success would be dependent on the cooperation and commitment of several local entities. There would be a risk of delay in preservation of resources beyond the projected timeline in the plan, which could translate to further deterioration and possibly loss of historic resources.

Under Alternatives 2 & 3, recognitions that would accompany the establishment of a NHS and assistance provided by the NPS would potentially result in increased local awareness of resource preservation. The increased involvement of NPS could raise the prestige of the area, which could result in several types of beneficial impacts. More rapid implementation and the ability to more effectively raise local funds would be likely to have beneficial impacts on the preservation of historic and cultural resources.

Under Alternative 3, additional NPS assistance in creating interpretive linkages to surrounding steel industry communities along the Lower Mon River Valley could create a regional awareness about historic resources that could indirectly lead to improved preservation of these resources.

Impacts to Natural and Recreational Resources

Physiography and Soils

Soils in the Homestead vicinity have been altered, compacted and, in some cases, supplemented due to historic industrial land use. The soils and physiography of riverbanks have changed over the years with modifications to the river wall.

All of the alternatives can be expected to have negligible impacts on soils and physiography, in large part due to the highly disturbed nature of the sites. While some new development is possible, such as a river landing and interpretive centers, much of the development involves the reuse of existing structures, and any development on vacant land would take place on "brownfield" sites that have been already disturbed. As specific sites for development are identified in the future, additional studies to analyze impacts would be conducted.

Development of recreational trails can result in soil compaction and erosion, but these impacts could be mitigated by choice of surface material and best management practices during construction. As trail locations are identified in the future, additional studies to analyze impacts would be conducted.

Surface Water Resources

The Monongahela River has historically been and is still used for goods transport in and around industrial areas and is used for recreational boating. Water quality, as discussed in Chapter 7, Natural and Recreational Resources, has improved greatly over the past twenty years, but surface water is generally acidic due to a history of coal discharge in the region, and holds traces of past pollution. Because of this historic use of the river and surrounding lands, all of the alternatives are expected to have negligible to minor impacts on surface water resources, as explained below:

- **Alternative 1** – This alternative would likely have minor impacts on surface water resources as the 1995 Management Action Plan involves river transportation services between a downtown orientation center and the Carrie Furnaces interpretive center, as part of the proposed river journeys. Tour boats can leak oil, gas or diesel fuel on a regular basis, even if they are well maintained. Also, use of recreational trails can add sediment to the river, particularly during storms.
- **Alternative 2** – This alternative can be expected to have minor impacts on surface water resources for the same reasons cited in Alternative 1.
- **Alternative 3** – This alternative would likely also have minor impacts for the reasons cited in Alternative 1, although increased interpretation in Alternative 3 along the Monongahela River Valley could potentially result in an expanded scope for the river journeys and thus an increase in boat traffic.

Vegetation

Since no floral survey has been conducted at the sites studied in the Homestead vicinity, it is not possible to reliably predict impacts on vegetation. However, because the land affected by the alternatives has been used for industrial purposes and has historically been cleared and because proposed development is in large part based on the reuse of existing structures, impacts of all alternatives on vegetation are expected to be negligible.

Fish and Wildlife

While Chapter 7 describes the types of species found in Allegheny county, no faunal survey of these sites has been conducted, so it is not possible to determine specific impacts to fish and wildlife. As noted in Chapter 7, improvements in water quality in the past twenty years have allowed some fish to return, but proximity of the Monongahela River to heavy industry has historically meant that the river could not support many fish species. Because of the urban nature of the sites, all alternatives could be expected to have negligible impacts on fish and wildlife.

Threatened and Endangered Species

As discussed in Chapter 7, the only endangered species found around the Pittsburgh region is the peregrine falcon, but no data is available to show this species is prevalent in the Homestead vicinity. The peregrine falcon was formally removed from the federal endangered species list in 1999, but remains on the Pennsylvania Game Commission's endangered species list because of the small local population and continued threats. Because the sites studied in this SRS are not indicated as habitat for the peregrine falcon, it is expected that all alternatives would have a negligible impact on threatened and endangered species.

Air Quality

All alternatives could have a negligible to minor impact on air quality in the Homestead vicinity. In all alternatives, it is assumed that the 1995 Management Action Plan to implement river journeys would be carried out, which could potentially have adverse impacts on air quality from increased boat traffic. In all alternatives, however, there would be an emphasis on multi-modal transportation linkages between resources, such as walking and biking trails, which could potentially mitigate adverse impacts from boat traffic. Homestead vicinity sites may attract additional traffic, although the underlying concept of the river journeys is to disperse parking at multiple locations, including downtown Pittsburgh. To the extent that Homestead vicinity sites attract additional vehicular traffic, there could be minor adverse effects to local air quality.

Recreational Resources

All alternatives include trails along the riverbanks that would be implemented by local entities, with the assistance of SIHC, and would link local parks and cultural resources. Assuming equivalent local effort to implement these systems of connecting links, all alternatives would have moderate beneficial impacts on trails and parks within the

Homestead vicinity. Increased boat traffic can impact fish populations and affect the experience of recreational boating and fishing. Given the activity that currently occurs on the Monongahela River, additional traffic under any of the alternatives would likely result in negligible to minor adverse impacts on these recreational resources. The beneficial impacts of additional boat landings and riverside trails could potentially mitigate these impacts.

Impacts to Historic and Cultural Resources

Archeological Resources

In the Homestead vicinity, industrial and earlier archeological resources have already been adversely impacted by successive urban and industrial development. For example, most of the former Homestead Steel Works has been torn down and the area has been redeveloped. Local entities, including SIHC, have already successfully collected industrial artifacts that could be incorporated into future interpretive sites. Construction of facilities, landscaping, trail improvements and other actions that require disturbance of the soil could potentially affect archeological resources. Under state and federal regulations, archeological resources must be protected for actions that use state or federal sources of funds. In all alternatives, archeological resources would be identified through systematic surveys prior to any actions funded by federal sources. Potential impacts and mitigating actions would be analyzed.

All of the alternatives could potentially have beneficial impacts on archeological resources, with minor distinctions explained below:

- **Alternative 1** – This alternative could have minor to moderate beneficial impacts on remaining archeological resources in the Homestead vicinity, as both state and federal funds would potentially be used to support the implementation process. However, because of funding uncertainties in this alternative, there is a risk of delay and/or damage to archeological resources, particularly if key sites are altered by actions of private owners.
- **Alternative 2** – This alternative could have moderate to major beneficial impacts on archeological resources because archeological surveys could be conducted as part of preservation efforts at the key sites where federal funds would be used for implementation. Also, the availability

of NPS technical assistance would provide greater likelihood of resource preservation than Alternative 1. As discussed in Chapter 6, in this alternative NPS would work with SIHC and/or the local management entity to develop a preservation element as part of a general management plan. Possible findings might include new artifacts and information about prior development at the Carrie Furnace site and at the Pump House and Battle of Homestead Landing site, which is currently partially underwater.

- **Alternative 3** – This alternative could have moderate to major beneficial impacts on archeological resources in the Homestead vicinity for the same reasons cited in Alternative 2. Additionally, NPS interpretive support for Monongahela River Valley linkages could raise local awareness about the importance of sites between Duquesne and Pittsburgh and could cause a beneficial impact on archeological resources in select communities.

Ethnic Resources

Ethnic resources are associated with groups that have influenced the story of Homestead, as described in Chapter 7. Research remains to be done to determine the full extent of ethnic resources in the Homestead and Monongahela River Valley vicinity. All of the alternatives would potentially strengthen the communities' awareness of the value of their heritage, their common history, the contributions of their diverse populations and their roles in the development of labor and creation of the steel industry. The impacts of each alternative on ethnic resources are explained below:

- **Alternative 1** – This alternative would most likely have minor to moderate beneficial impacts on ethnic resources because it promotes their preservation and documentation. SIHC has begun an ambitious project to document and collect traditional knowledge, stories and personal artifacts, which will be incorporated into future interpretive sites. SIHC is actively documenting ethnic resources, including, for example, events, religious celebrations and holidays and contact information for local historians and cultural resources, and has secured several grants for these purposes.
- **Alternative 2** – This alternative would be likely to result in moderate to major beneficial impacts on ethnic resources because there is a higher probability of identifying and documenting contributing resources, due in part to greater finan-

cial resources and the potential support of NPS staff on-site for research and interpretation. Additionally, in this alternative the Homestead National Register Historic District, which represents a cross section of historic ethnic communities, would be eligible for NPS assistance. New interpretive assistance from NPS focused on the story and preservation of ethnic resources as they relate to the themes of labor, community and the steel industry could result in expanded beneficial impacts on ethnic resources, compared to Alternative 1.

- **Alternative 3** – This alternative would have impacts on ethnic resources similar to those in Alternative 2, although there is a greater likelihood of moderate to major beneficial impacts due to an expansion by NPS of interpretive assistance. Additionally, because of the expanded scope of Alternative 3, more ethnic communities and resources may be interpreted and involved with the NHS.

Historic Districts and Structures

All of the alternatives could be expected to result in beneficial impacts to historic resources because they call for their preservation and reuse. The impacts of each alternative on historic districts and structures are explained below:

- **Alternative 1** – This alternative could have moderate to major beneficial impacts on the Homestead historic district and its structures since SIHC would continue to promote preservation of historic and cultural resources with current financial support from local, state and private funding. For example, major beneficial impacts have already been realized with the preservation and rehabilitation of the Bost Building and the Pump House, which are maintained by SIHC and others. Alternative 1 could continue to have moderate to major beneficial impacts on historic and cultural resources within the area as SIHC implements the full scope of its plan.

However, there is a potential risk of adverse impacts at sites that require timely preservation, such as the Carrie Furnaces, the Hot Metal Bridge and other structures within the Homestead National Register Historic District, which could continue to deteriorate if SIHC is unsuccessful in rapidly leveraging funding to restore them. This risk is particularly evident at sites with a high cost of preservation, such as the Carrie Furnaces site. Deterioration of resources at vulnerable sites might decrease the probability

of effective preservation as the costs of preservation grow over time or as private owners take inappropriate action. Further, the private owner of Carrie Furnaces 6 and 7 has indicated its receptivity to NPS involvement at the Carrie site but has given no guarantees that the site will be preserved if NPS is not involved. This alternative offers real risk that the owners could demolish Carrie Furnaces, especially if its future remains uncertain, impeding other development in the vicinity.

Historic resources in the study area are at risk largely due to current economic development trends. For example, the Carrie Furnaces site and the Homestead National Register Historic District are on Preservation Pennsylvania's list of ten most "at risk" areas due to economic pressure for new development. This trend could continue if long-term protection is not found.

- **Alternative 2** – This alternative could have moderate to major beneficial impacts on historic districts and structures, potentially with higher beneficial impact than Alternative 1, as Alternative 2 encompasses the current efforts of SIHC and additionally, NPS would have a permanent commitment at sites eligible for NPS preservation and interpretive assistance. At these sites, NPS involvement would provide supplemental funding, on-site staff, technical expertise and support with the interpretation of historic and cultural resources. This degree of NPS participation would provide a greater level of national recognition, which in turn could assist SIHC in leveraging the necessary funds to implement the full scope of their plan. NPS involvement also increases the probability that the resources will be preserved without significant delays.
- **Alternative 3** – This alternative could have moderate to major beneficial impacts on historic districts and structures for the same reasons cited in Alternative 2, in addition to its expanded scope, including support for interpretive linkages to historic resources along the Monongahela River Valley. In this alternative, NPS interpretive support for these linkages could raise local awareness about the importance of historic sites and structures along the Monongahela River and could cause a beneficial impact in select communities.

Impacts to the Socioeconomic Environment

Land Use

The SRS area is located within a heavily developed urban area that was historically dominated by industrial uses. Land use has shifted from predominantly industrial to predominantly residential and mixed use in the last two decades, as seen in recent waterfront development in Homestead, Munhall and West Homestead.

All of the alternatives could have moderate direct short-term beneficial impacts on land use in the Homestead vicinity, as all would reuse vacant industrial buildings and sites as interpretive and recreational uses. Long-term indirect land use changes are also likely, to the extent that visitors are attracted to heritage venues. These changes would be caused by increased spending and potential pressure on owners to reuse vacant commercial building and properties. To the extent that the alternatives differ in the number of visitors to be attracted, alternatives that attract more visitors will tend to have increasingly beneficial impacts. Consequently, Alternatives 2 and 3 (see below) are likely to have somewhat higher long-term beneficial impacts.

Transportation

All alternatives are multi-modal, as they will take place within the framework of the Rivers of Steel NHA Management Action Plan. The plan incorporates river journeys to connect regional sites as well as trail initiatives to create bicycle and pedestrian connections among heritage venues. Differences among the alternatives include the following:

- **Alternative 1** – This alternative could have minor impacts on transportation in the Homestead vicinity. The 1995 Management Action Plan proposed that major parking would be provided in Pittsburgh at a downtown orientation center, which would be the main point of arrival and orientation for visitors. From this orientation center, tourists would use water transportation that would take them to the Steel Heritage Interpretive Center at the Carrie Furnaces site. Despite the published intent of the plan, it is likely that some new parking would need to be provided at the Carrie Furnaces site to accommodate visitors who elect to drive directly to this primary venue. However, the amount of traffic directly attracted to the site should be minor, especially compared to the large-scale traffic that was associated with the site at its peak industrial use. Should the North

Shore Alternative of the Mon-Fayette Expressway be completed, an exit would be provided near Carrie Furnaces, which would facilitate vehicular access to this site.

- **Alternative 2** – This alternative could have minor to moderate impacts on transportation in the Homestead vicinity. The scale of development would be similar to that of Alternative 1, but that development is likely to attract more visitors and be completed earlier, because the NPS imprimatur and credibility would be a likely catalyst to accelerate local commitments to implementation and site management. Alternative 2 would rely on the river journeys to serve a proportion of the visitors, but some parking would be required at Carrie Furnaces. Traffic impacts would be larger than Alternative 1, inasmuch as more visitors would be attracted to Alternative 2 than estimated for Alternative 1.
- **Alternative 3** – The traffic impact of this alternative would be similar to Alternative 3.

The Local Economy

All alternatives could beneficially impact the socioeconomic conditions in the immediate study area because they would result in new construction and additional heritage tourism in the Homestead vicinity. These changes would result in increased visitor activity in and near the business district and could affect the area economy with beneficial short- and long-term changes in sales, job creation and resultant tax revenues.

- **Alternative 1** – This alternative could have minor beneficial impacts on the local economy due to increased attention focused on the area through investment in physical preservation and reuse of historic resources for interpretive and recreational uses, particularly at the Bost Building and Pump House and Battle of Homestead Landing site. It is likely that the major desired investments in this alternative at Carrie Furnaces may take some period to accomplish if sources of funding are limited to NHA federal funds and local and state sources. Although long-term benefits would likely accrue, the timing of such benefits would be uncertain.
- **Alternative 2** – This alternative could have moderate beneficial impacts on the local economy due to its proposed investment in physical preservation and reuse of historic resources within a relatively limited geographic scope. The recognition attached to the NPS affiliated area would be a factor in accelerating implementa-

tion and is likely to be helpful in attracting necessary state and local commitments. Revenue generation and tourism-related employment opportunities could be expected to occur at a faster pace than in Alternative 1. These beneficial impacts would be focused on the areas near by the Carrie Furnaces site and Homestead and should include increased visitor expenditures and job opportunities in West Homestead, Homestead, Munhall, Swissvale and Rankin.

- **Alternative 3** – This alternative could have moderate beneficial impacts on the local economy for the same reasons cited in Alternative 2. There is some potential in Alternative 3 for indirect beneficial economic impact in the linked communities along the Monongahela River.

Visitor Experience

The attractiveness of heritage or cultural resource sites to visitors is important because it affects the educational and recreational value of the visitor experience and also can directly influence the site's inherent ability to attract visitors. Major differences in the visitor experience of the alternatives considered in this study are reviewed below:

- **Alternative 1** – This alternative follows the framework of the 1995 Rivers of Steel Management Action Plan, focusing on the story of the steel industry, with its “Big Steel” journey. While Homestead and its labor-related resources would be part of this journey, the primary interpretive and visitor experience in the plan in the Homestead vicinity would be at the Carrie Furnaces 6 and 7, where the Steel Heritage Interpretive Center is proposed. The initial emphasis proposed in the plan was on the steel-making process and steel-making technology at this site through time, including interactive exhibits that would bring the process to life. As noted in Chapter 6 of this SRS, it is likely that the implementation of such a complex undertaking, in the absence of NPS designation, would be difficult and that a more modest start to this site would be likely under this alternative. Given the high cost of even base rehabilitation of Carrie Furnaces 6 and 7, the initial phases of this project may necessarily be more modest, providing less of a visitor draw to the other important resources of Homestead and still risking damage or even demolition to Carrie Furnaces.
- **Alternative 2** – This alternative would predominantly focus on nationally significant labor themes and the story of Homestead, placing them in their context of the Homestead commu-

nity and the steel industry. This emphasis, as well as the NPS involvement in this alternative, would offer the potential to accelerate implementation commitments, providing a broader and more immediately interesting visitor experience that might serve a more diverse audience than Alternative 1, giving visitors an expanded opportunity to choose activities based on their interests. The national significance of the labor story would be more fully conveyed in this alternative, giving visitors an understanding of how the three themes are interrelated and how the resources and history of Homestead fit into a local and national context. The presence of NPS interpretive rangers would increase the prominence and visibility of the key sites and the Homestead vicinity, providing an immediate boost for visitation and related activities.

- **Alternative 3** – This alternative encompasses the same thematic and interpretive focuses as in Alternative 2, with added interpretive support in the form of increased NPS staff on-site and linkages to other resources along the Lower Monongahela River. Because of these linkages, visitors might better understand the steel and community themes, due to the involvement of more resources and an interpretation of their stories, setting Homestead in context. Because of this broad scope, Alternative 3 has the greatest potential to serve a larger audience.

Economic Impacts of Site Visitation

Assessment of the tourism-related economic impacts of a NPS management unit, where all improvements would be the financial responsibility of NPS and park operations would be undertaken by NPS, has some degree of predictability regarding the quality of product and timing of implementation of a federal action. For the assessment of alternatives in this SRS, forecasts of tourism impacts are considerably more uncertain, as all alternatives assume significant state and local contributions to improvements and management, the timing and certainty of which are speculative and are, necessarily, factors in considering impact. The economic projections based on visitor activity are based upon the NPS MGM2 economic model³⁹, based on comparable urban metropolitan areas and historic attraction patterns and are presented to provide a comparative basis across these general alternatives. The comparative assessment of impact is as follows:

- **Alternative 1** – This alternative could have minor to moderate beneficial impacts on tourism in the Homestead vicinity and

Monongahela River Valley, stemming from increased visitor awareness of the region's resources and story. The 1995 Management Action Plan, assuming full implementation of a national park site (not assumed in Alternative 1 of this study) predicted an increase in visitor volume to the Homestead vicinity of 400,000 people per year. Alternative 1, assuming continuation of NHA support through 2007 and continued implementation coordination by SIHC, would incorporate the rehabilitation of the Bost Building, new interpretive exhibits at the Pump House and a likely extended completion for the Carrie Furnaces site. Given the scale of visitation at other regional historical attractions, such as the major new facility of the Pittsburgh Regional History Center, which attracts 150,000 visitors per year, it is likely that the overall tourist visitation in Alternative 1 to the Homestead vicinity would be considerably more modest than the 1995 Management Action Plan forecast; relatively few tourists visit the site today. Assuming that the efforts of SIHC are successful in creating a unique environment and experience, achievement of visitation in a range from 100,000 to 150,000 visitors per year would be a reasonable assumption, particularly in comparison to the Pittsburgh Regional History Center. Visitation at this scale would create economic benefits for the area, but the timing of the increase would be dependent on the effectiveness of local fund-raising efforts. With an assumed visitor attendance of 150,000 per year, a conservative estimate would envision \$3.4 million in direct and indirect regional sales generated by visitor activity and the creation of 68 jobs.

- **Alternative 2** – This alternative could have a moderate to major beneficial impact on tourism, with potentially larger beneficial impact than Alternative 1, because greater regional and national recognition could result from NPS designation of the affiliated area. NPS ranger presence, interpretive materials and maps, and support for preservation of key resources would increase area credibility and visibility, positively influencing visitor perceptions and experience. Most importantly, NPS on-site involvement is likely to increase the local- and state-funding commitment to the Carrie Furnace element of the project, which is both the most difficult to execute but potentially the most exciting and unique visitor attraction. Alternative 2 may attract from 200,000 to 250,000 visitors per year, a total that could potentially be reached earlier than the Alternative 1 projection, because of the factors mentioned above. With an assumed visi-

tor attendance of 250,000 per year, a conservative estimate would envision \$5.6 million in direct and indirect regional sales generated by visitor activity that would result in the creation of 113 jobs. This impact would be increased by the positive economic impact of up to five NPS staff positions, plus local staff commitments.

- **Alternative 3** – This alternative would have a moderate to major beneficial impact on tourism in the Homestead vicinity for the same reasons and of the same magnitude cited in Alternative 2, with the additional potential for modest beneficial visitor activity in communities along the Lower Mon Valley associated with interpretive linkages to the Homestead vicinity and its increased visitation that might increase local awareness of the region's resources and story. Assuming that total visitors per year would increase to 300,000 due to expanded regional activity and visibility, a conservative estimate would envision \$6.7 million in direct and indirect regional sales generated by visitor activity that would result in the creation of 135 jobs. This impact would be increased by the positive economic impact of up to seven NPS staff positions, plus local staff commitments.

Unavoidable Adverse Impacts

Under all of the alternatives, short- and long-term disturbance and vegetation loss may result from construction activities relating to new visitor facilities and trails. Implementation of appropriate erosion control and revegetation measures would minimize the magnitude of these effects where they occur. Additionally, construction activities would have short-term impacts on air quality due to dust and exhaust, and would cause short-term noise disturbance. While some new development is possible, such as a river landing and interpretive centers, much of the development involves the reuse of existing structures, and any development on vacant land would take place on "brownfield" sites that have already been disturbed.

Development of recreational trails can result in soil compaction and erosion, but these impacts could be mitigated by choice of surface material and best management practices during construction. As specific sites for new construction or trails are identified in the future, additional studies to analyze impacts would be conducted. Under Alternatives 2 and 3, there is a greater likelihood of increased trail use, resulting in more impact.

Increased boat traffic on the river would likely have

minor impacts on surface water resources as boats can leak oil, gas or diesel fuel on a regular basis, even if they are well maintained. Also, use of recreational trails can add sediment to the river, particularly during storms. Homestead vicinity sites may attract additional traffic, although the underlying concept of the river journeys is to disperse parking at multiple locations, including downtown Pittsburgh. To the extent that Homestead vicinity sites attract additional vehicular traffic, there could be minor adverse effects to local air quality. An emphasis in all alternatives on multi-modal forms of transportation could potentially mitigate any adverse impacts from increased traffic. Under Alternatives 2 and 3, there is a higher probability of increased boat and automobile traffic.

Archeological resources may be impacted by the above development activities. At this time, it is not known whether significant archeological resources are present. If such resources were found before or during construction activities, the facilities could be relocated or the archeological resources could be excavated to salvage artifacts. Under the latter condition, some impacts to archeological resources would be unavoidable.

Relationship between Short-term Uses and Maintenance and Enhancement of Long-term Productivity

NPS is required to describe actions in terms of the NEPA objective to maintain and enhance the long-term productivity of the environment. All alternatives include numerous elements that would enhance the long-term productivity of the environment.

Improving the management of the Homestead vicinity's historic and cultural resources would contribute to the long-term protection and preservation of those resources. All of the alternatives emphasize the preservation and protection of these resources, including the adaptive reuse of existing resources, and also take steps to prevent development of the land in the mixed-use development pattern typical of the region. Trails and linkages among resources would contribute to an increased appreciation of and protection for natural, historic and cultural resources in the long term. Additionally, all alternatives provide linkages among resources that encourage multi-modal forms of transportation, such as walking and biking. This could reduce automobile use and have long-term beneficial impacts on the environment, particularly air quality. Documentation of ethnic

resources called for in this plan would preserve these resources in the long term. In some cases, intervention in the short term is necessary to preserve historic and cultural resources. Under Alternatives 2 and 3, a higher level of interpretive and preservation assistance could result in a higher probability of long-term resource protection.

Irreversible and Irretrievable Commitments of Resources

An irreversible commitment of resources is one that cannot be changed once it occurs; and irretrievable commitment means that the resource cannot be recovered or reused.

Any loss of undiscovered underground resources in areas undergoing preservation or rehabilitation would be an irreversible and irretrievable commitment of resources. In addition, loss of historic material from the reuse of existing structures would be an irreversible and irretrievable commitment of resources. Surveys, avoidance through design, documentation and other mitigation would be accomplished before any preservation or rehabilitation occurs, so these impacts would be minimized. Additionally, land use in some cases would no longer be vacant and would likely not return to a natural, vacant state.

Environmentally Preferred Alternative

National environmental policy, as expressed in NEPA [section 101(b)], sets out guidelines for determining an environmentally preferred alternative. In this study, the Environmentally Preferred Alternative is Alternative 2, which is the most effective alternative because it focuses on the core resources in the Homestead environs related to the interpretation of the nationally significant story of labor and its relationship to the "Big Steel" era and community.

Fulfills the responsibilities of each generation as trustee of the environment for succeeding generations. All alternatives emphasize the preservation of resources for future generations. Alternative 2 has a high potential for beneficial impact.

Ensures for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings. Alternative 2 takes steps to ensure a safe, healthful, productive and accessible environment in the long term, preventing development of the land in the mixed-use development pattern typical of the region. Alternative 2 also preserves and

promotes aesthetically and culturally pleasing surroundings.

Attains the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences. Beneficial uses of the environment are high in Alternative 2, as it encourages trail linkages between resources and a high level of interpretation, which could increase resource appreciation and the likelihood of resource protection. As specific development is proposed or approved, environmental degradation and other undesirable consequences will be avoided, to the maximum extent possible, through a development review process and mitigation measures.

Preserves important historic, cultural and natural aspects of our national heritage and maintains, wherever possible, an environment that supports diversity and variety of individual choice. Alternative 2 would potentially result in high levels of beneficial impacts on cultural and historic resources because it includes the broadest measures for resource preservation. Alternative 2 also includes a high level of resource interpretation and linkages with many communities, which would result in a diversity of choices in visitor experience and would attract a wide audience.

Achieves a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities. Because of its scope, Alternative 2 could increase resource preservation and economic development in more communities and so enhance the quality of life in a wide geographic range. Additionally, by emphasizing trail linkages, Alternative 2 contributes to a wide usage of different resources.

Enhances the quality of renewable resources and approaches the maximum attainable recycling of depletable resources. Alternative 2 demonstrates a high potential for protection of natural resources, which are "renewable resources." Nonrenewable resources such as historic resources would be afforded the highest level of protection under this alternative. Additionally, Alternative 2 encourages adaptive reuse of existing resources, effectively recycling depletable resources.

Cumulative Impacts

The Homestead Special Resource Study is one of many initiatives in the Homestead vicinity. Several planning initiatives and other projects are underway throughout the region that, in combination

with the actions described in the alternatives in this SRS, have the potential to create regional cumulative effects.

Some of the notable initiatives include the following. The *Comprehensive Urban Design Study and Plan for Homestead, West Homestead and Munhall* includes a range of initiatives that are designed to reinforce the existing historic commercial core of the Homestead vicinity. This study suggests linkages between the new Waterfront development and older commercial area, new parking, streetscape improvements and other redevelopment proposals to rehabilitate vacant structures for commercial uses in Homestead, West Homestead and Munhall. The *Waterfront development* has attracted an estimated \$350 million of development to the former site of Homestead Steel Works, including retail uses, offices and residential uses. Designation of an *Enterprise Zone* that includes the Boroughs of West Homestead, Homestead and Munhall will attract significant funding and incentives to assist in preserving the buildings and settings within the Homestead National Register and Local Historic District. The *Mon Valley Initiative*, which initially advocated for National Heritage Area designation, is attracting housing rehabilitation and infill funding to the area. Allegheny County is coordinating study of the development potential of lands surrounding the Carrie Furnaces 6 and 7 and the ongoing activities of *Rivers of Steel* are resulting in rehabilitation of the National Historic Landmark Bost Building, a broad range of cultural activities and trail initiatives along the Monongahela River Valley. At *Nine Mile Run*, across the river from Homestead, the Army Corps of Engineers, the City of Pittsburgh Department of City Planning and a local developer will clean up a former slag dump from the steel mill operations and create a 110-acre expansion of Frick Park and a \$243 million housing development. Finally, the *Mon-Fayette Expressway* is a proposed highway whose two proposed alternative routes each run through the study area. These initiatives are described more fully in **Chapter 1, Context of the Study Area, and Chapter 7, The Socioeconomic Environment: Development and Transportation Context.**

Environmental impacts from the recommendations in this SRS, added to other past, present, or foreseeable future actions, may cause the following cumulative positive and/or negative impacts.

In general, actions of this plan, combined with other regional initiatives, will bring about positive impacts, including:

Ongoing preservation efforts for historic and cultural resources resulting in more appreciation of cultural heritage. All alternatives would most likely result in long-term, beneficial cumulative impacts, with Alternative 2 having the potential for beneficial impacts.

Increased demand for development of tourism facilities and commercial establishments, which, along with other economic revitalization initiatives, would contribute beneficially to the economic health of the area.

Ongoing development of trail systems linking resources, which encourage multi-modal forms of transportation and recreational use of open space, and would improve access to and appreciation of resources. All alternatives would potentially result in long-term, beneficial cumulative impacts, with Alternative 2 has a high level of beneficial impacts.

Ongoing redevelopment of vacant industrial build-

ings and sites resulting in urban revitalization. This would potentially result in long-term, beneficial cumulative impacts.

In some cases, aspects of this plan may combine with other regional actions to increase the potential for adverse impacts, including:

Increased automobile traffic congestion and emissions. This impact may not be significant as compared to the impact of the proposed Mon-Fayette expressway on the area, and should be considered in the context of current and future traffic volumes.

Increased boat traffic and emissions. The increase in boat traffic proposed in this SRS should be considered in the context of current boat traffic levels and considering the possibility that additional waterfront development along the river could add to current levels. The beneficial impacts of additional boat landings and riverside trails proposed in this plan could potentially mitigate these impacts.